

METHODS AND APPARATUSES FOR MEASURING THE COMPLIANCE OF STENTS AND STENTED GRAFTS

Abstract of the Disclosure

5 Methods and apparatuses for testing the compliance of stents and stented grafts, including
pre-testing them in a pre-tester tube prior to accelerated fatigue testing. The pre-tester tube is a
simulated human vessel that may be made of animal tissue having approximately the same size as
the human target vessel. The pre-test involves pressurizing the pre-tester tube at various normal and
abnormal physiologic pulsed pressures with the stent or stented graft in place. By measuring the
10 expansion of the pre-tester tube, the proper expansion rate of the stent or stented graft is determined.
Those data are then used in a feedback loop to control the amount of expansion of a synthetic tester
tube in the accelerated fatigue tests. The tester regulates the pressure in the tester tube to attain the
proper expansion magnitude during the test. The animal tissue may be porcine tissue, in particular a
porcine aorta to simulate the human abdominal aorta. Any side branches of the porcine aorta are tied
15 off.